

Abstract

A micromechanical sensor and a method for manufacturing same are described. A secure diaphragm restraint, independent of fluctuations in the cavern etching process due to the process technology, and a free design of the diaphragm are made possible by designing a suitable connection of the diaphragm in an oxide layer created by local oxidation.

10 The micromechanical sensor has at least:
a substrate (1),
an external oxide layer (9) formed in a laterally external area (4) in the substrate (1),
a diaphragm (15) having multiple perforation holes (16) formed
15 in a laterally internal diaphragm area (5),
a cavern (14) etched in the substrate (1) beneath the diaphragm (15),
whereby the diaphragm (15) is suspended in a suspension area (10) of the external oxide layer (9) which tapers toward
20 connecting points (12) of the diaphragm (15) and
the diaphragm (15) is situated in its vertical height between a top side (17) and a bottom side (19) of the external oxide layer (9).

25 Figure 4